

LIST OF CONTENTS

VOLUME 55, NUMBER 1, 1995

L. Keller and P. Affolter
(*Switzerland*)

**H. G. Beyer,
C. Costanzo and
C. Reise** (*Germany*)

**R. A. Gansler,
S. A. Klein and
W. A. Beckman** (*U.S.A.*)

**C. Choudhury,
P. M. Chauhan and
H. P. Garg** (*India*)

**H.-M. Henning and
M. Sasse** (*Germany*)

R. Pallabazzer (*Italy*)

**K. H. Papadopoulos,
C. G. Helmis,
A. T. Soilemes,
P. G. Papageorgas and
D. N. Asimakopoulos**
(*Greece*)

**K. F. Fraser,
K. G. T. Hollands and
A. P. Brunger**
(*Canada*)

**D. I. Milburn and
K. G. T. Hollands**
(*Canada*)

Photovoltaics Articles

- 1 Optimizing the panel area of a photovoltaic system in relation to the static inverter—practical results

Radiation and Measurement Articles

- 9 Multiresolution analysis of satellite-derived irradiance maps—an evaluation of a new tool for the spatial characterization of hourly irradiance fields

- 21 Investigation of minute solar radiation data

Solar Thermal Articles

- 29 Economic design of a rock bed storage device for storing solar thermal energy

- 39 A collector hardware simulator: theoretical analysis and experimental results

Wind Articles

- 49 Evaluation of wind-generator potentiality

- 61 Study of the turbulent characteristics of the near-wake field of a medium-sized wind turbine operating in high wind conditions

- 73 Book Reviews

- 1 Announcement

VOLUME 55, NUMBER 2, 1995

Heating and Cooling Articles

- 75 An empirical model for natural convection heat exchangers in SDHW systems

- 85 The directional response error in integrating-sphere transmittance measurements at solar wavelengths

K. S. Ong (Malaysia)

- 93 Thermal performance of solar air heaters:
mathematical model and solution procedure

**M. Santamouris,
G. Mihalakakou,
C. A. Balaras, A. Argiriou,
D. Asimakopoulos and
M. Vallindras (Greece)**

- 111 Use of buried pipes for energy conservation in
cooling of agricultural greenhouses

**B. Molineaux,
P. Ineichen and
J. J. Delaunay
(Switzerland/Germany)**

Radiation and Measurement Articles

- 125 Direct luminous efficacy and atmospheric
turbidity—improving model performance

**P. C. Eames and
B. Norton
(Northern Ireland)**

Solar Thermal Articles

- 139 Thermal and optical consequences of the
introduction of baffles into compound parabolic
concentrating solar energy collector cavities

I *Announcement*

VOLUME 55, NUMBER 3, 1995

**J. D. Garrison and
R. E. Collins
(Australia)**

Heating and Cooling Articles

- 151 Manufacture and cost of vacuum glazing

**G. Mihalakakou,
M. Santamouris,
D. Asimakopoulos and
I. Tselepidaki
(Ireland/Greece)**

- 163 Parametric prediction of the buried pipes cooling
potential for passive cooling applications

**D. E. Prapas, I. Veliannis,
A. Evangelopoulos and
B. A. Sotiropoulos
(Greece)**

- 175 Large DHW solar systems with distributed
storage tanks

**Arthur T. DeGaetano,
K. L. Eggleston and
W. W. Knapp (U.S.A.)**

Radiation Articles

- 185 A comparison of daily solar radiation estimates
for the Northeastern United States using the
Northeast regional climate center and national
renewable energy laboratory models

**Michael Grupp,
Hannelore Bergler,
Jean-Pierre Bertrand,
Bernd Kromer and
Joachim Cieslok
(France/Germany)**

Solar Thermal Articles

- 195 "Convective" flat plate collectors and their
applications

K. S. Ong (Malaysia)

- 209 Thermal performance of solar air heaters—
experimental correlation

**J. C. Craparo and
E. F. Thacher (U.S.A.)**

- Transportation Articles*
221 A solar-electric vehicle simulation code

VOLUME 55, NUMBER 4, 1995

**A. Hamza H. Ali,
I. M. S. Taha and
I. M. Ismail
(Japan/Egypt)**

A. İleri (Turkey)

**S. Gupta and
M. Chandrashekhar
(Canada)**

**J. M. Huacuz, R. Flores,
J. Agredano and
G. Munguia (Mexico)**

**A. Farouk Kothdiwala,
B. Norton and
P. C. Eames (N. Ireland)**

**I. Sezai and
E. Taşdemiroğlu (Turkey)**

S. Zunft (Germany)

- Heating and Cooling Articles*
235 Cooling of water flowing through a night sky radiator

255 Yearly simulation of a solar-aided R22-DEGDME absorption heat pump system

- Photovoltaics Articles*
267 A unified approach to modelling photovoltaic powered systems

- 287 Field performance of lead-acid batteries in photovoltaic rural electrification kits

- Solar Thermal Articles*
301 The effect of variation of angle of inclination on the performance of low-concentration-ratio compound parabolic concentrating solar collectors

- 311 Effect of bottom reflectivity on ground heat losses for solar ponds

- 321 Temperature control of a distributed collector field

VOLUME 55, NUMBER 5, 1995

**E. Dascalaki,
M. Santamouris,
A. Argiriou, C. Helmis,
D. N. Asimakopoulos,
K. Papadopoulos and
A. Soilemes (Greece)**

**J. W. Bollentin and
R. D. Wilk (U.S.A.)**

**G. Mihalakakou,
M. Santamouris,
D. Asimakopoulos and
A. Argiriou (Greece)**

- Heating and Cooling Articles*
327 Predicting single sided natural ventilation rates in buildings

- 343 Modeling the solar irradiation on flat plate collectors augmented with planar reflectors

- 355 On the ground temperature below buildings

- W. R. Anis (Egypt)**
- V. N. Madansure,
S. Banerjee,
A. Mukherjee and
P. K. Chatopadhyay
(India)**
- J. Boland (Australia)**
- D. Mowla and
G. Karimi (Iran)**
- A. Hoque and
Q. Ahsan (U.K./Bahrain)**
- S. Pashardes and
C. Christofides
(Cyprus)**
- V. Badescu (Romania)**
- J. Goldemberg (Brazil)**
- R. Becker (Israel)**
- Y. Rabin, I. Bar-Niv,
E. Korin and
B. Mikic (Israel/U.S.A.)**
- S. R. Hastings (Switzerland)**
- T. Bergene and
O. M. Løvvik (Norway)**
- Y. Hirata and
T. Tani (Japan)**
- M. Jurado,
J. M. Caridad and
V. Ruiz (Spain)**
- Photovoltaic Articles*
- 363 Design of control circuit of solar photovoltaic powered regulated cathodic protection system
- 367 Modelling and simulation of PV-powered intermittent load systems by bond graph technique
- Radiation and Measurement Articles*
- 377 Time-series analysis of climatic variables
- Solar Thermal Articles*
- 389 Mathematical modelling of solar stills in Iran
- Wind Articles*
- 395 Wind and solar generating units: potential candidates for a generation mix of an isolated area
- 405 Statistical analysis of wind speed and direction in Cyprus
- 415 Letter to the Editor
- 417 Book Review
- VOLUME 55, NUMBER 6, 1995**
- Heating and Cooling Articles*
- 419 Computational model for analysis of dynamic thermal performance of a hybrid slab-collector system with passive discharge
- 435 Integrated solar collector storage system based on a salt-hydrate phase-change material
- 445 Myths in passive solar design
- Hybrid Systems Articles*
- 453 Model calculations on a flat-plate solar heat collector with integrated solar cells
- 463 Output variation of photovoltaic modules with environmental factors—I. The effect of spectral solar radiation on photovoltaic module output
- Radiation and Measurement Articles*
- 469 Statistical distribution of the clearness index with radiation data integrated over five minute intervals

- J. A. Olseth,
A. Skartveit and
H. Zou (Norway)**
- C. Zhou, J. Michalsky and
L. Harrison (U.S.A.)**
- J. Garrison and
K. Sahami (U.S.A.)**
- J. Garrison and
K. Sahami (U.S.A.)**
- J. Garrison (U.S.A.)**
- A. T. Shawaqfeh and
M. M. Farid (Jordan)**
- S. H. Pawar and
A. N. Chapgaon (India)**
- 475 Spatially continuous mapping of solar resources in a complex high latitude topography
- 487 Comparison of irradiance measurements made with the multi-filter rotating shadowband radiometer and first-class thermopile radiometers
- 493 A study of the division of global irradiance into direct beam and diffuse irradiance at seven Canadian sites
- 505 Analysis of clear hour solar irradiation for seven Canadian stations
- 513 An evaluation of the effect of volcanic eruption on the solar radiation at six Canadian stations
- Solar Thermal Articles*
- 527 New development in the theory of heat and mass transfer in solar stills
- 537 Fertilizer solar ponds as a clean source of energy: some observations from small scale experiments
- 543 Volume 55, 1995—List of contents and author index

I *Announcement*

**Reproduced with the permission of Pergamon Press Inc., by University
Microfilms Inc. Duplication or resale without permission is prohibited.**

